

**ENGINEERING ANALYSIS
WARRIOR MET COAL GAS, LLC
WELL 28-15-01
TUSCALOOSA COUNTY, ALABAMA
FACILITY NO. 413-0130
AIR PERMIT NO. X001 & SMOP NO. X002**

On June 4, 2026, the Air Division received a Air Permit application from Warrior Met Coal Gas, LLC (Warrior Met Coal) with addenda to the application submitted on June 11, 2026, for the proposed construction and operation of a new natural gas gob well that would power five natural gas-fired reciprocating internal combustion engines (RICE) for the purpose of mining cryptocurrency. Based on the information provided in the applications, the facility would be a Greenfield site, a synthetic minor source under Title V regulations, and a synthetic minor source under PSD regulations. The proposed project would be issued Air Permit No. X001 and Synthetic Minor Operating Permit (SMOP) No. X002.

Facility Operations/Proposed Equipment

Cryptocurrency mining is the process by which transactions are officially entered on the blockchain and new cryptocurrency are launched into circulation. Miners use computers to find a cryptographic number that meets the cryptocurrency (Bitcoin) network's difficulty rules. The first miner to find a solution to the problem receives bitcoins as a reward, and the process begins again.

Warrior Met Coal has proposed to utilize a 145 hp Caterpillar G3306 4-stroke, rich-burn (4SRB) natural gas-fired RICE equipped with a catalyst (Proposed X001) to extract gas from Well 28-15-01 to power four 684 hp Mesa GV22PU 4SRB natural gas-fired RICE equipped with NSCR/3-way catalyst (Proposed X002). These four proposed RICE would power a series of servers to mine for cryptocurrency.

Emissions

The pollutants of concern that would be emitted from the five proposed RICE each equipped with a 3-way catalyst would be the products of combustion, which include nitrogen oxides (NO_x), carbon-monoxide (CO), volatile organic compounds (VOC), sulfur dioxide (SO₂), formaldehyde (CH₂O), and particulates, listed as: particulate matter (PM), and particulate matter ≤ 10 microns (PM₁₀). Emissions of other criteria and hazardous air pollutants (HAP) were reviewed but determined to be insignificant. Emission calculations for the proposed engines are included as Appendix A, and emissions calculations for the aggregated facilities are included as Appendix B.

State Regulations

ADEM Admin. Code r. 335-3-4-.01, "Control of Particulate Emissions: Visible Emissions"

The proposed units would each be subject to the State visible emission standard of ADEM Admin. Code r. 335-3-4-.01(1), which states that no air emission source may emit particulate of an opacity greater than 20% (as measured by a six-minute average) more than once during any 60-minute period and at no time shall emit particulate of an opacity greater than 40% (as measured by a six-minute average). They are expected to be able to comply with this standard because they would be exclusively fired by natural gas.

ADEM Admin. Code r. 335-3-4-.03, "Control of Particulate Emissions: Fuel Burning Equipment"

Although the proposed RICE are fuel combustion sources, they would not be subject to any particulate matter (as TSP) emission limitation of ADEM Admin. Code r. 335-3-4-.03 because they do not meet the definition of fuel burning equipment and the facility is not considered one of the process industries, general or specific.

ADEM Admin. Code r. 335-3-5-.01, "Control of Sulfur Compound Emissions: Fuel Combustion"

Although the proposed RICE are fuel combustion sources, they would not be subject to any sulfur dioxide (SO₂) emission limitation of ADEM Admin. Code r. 335-3-5-.01 because they do not meet the definition of fuel burning equipment nor is this facility considered one of the process industries, general or specific.

Federal Regulations

Title V

After the installation of the five proposed RICE, the uncontrolled facility-wide potential emissions of NO_x and CO emissions would each exceed the 100 TPY major source threshold under Title V regulations. To remain below the major source threshold, Warrior Met Coal has proposed to install catalysts. In addition to requiring the control devices to remain below the Title V major source thresholds, they would also be necessary to meet the applicable 40 CFR Part 60, Subpart JJJJ, emission limits. The applicable 40 CFR Part 60, Subpart JJJJ NO_x and CO emission limits would also serve as synthetic minor emissions limitations to remain below the Title V major source threshold for each pollutant. After the installation of the five proposed RICE (Proposed Air Permit No. X001 and SMOP No. X002), the facility would be a synthetic minor source under Title V regulations because the potential emissions of NO_x and CO would each exceed 100 TPY without the synthetic emission limitations of 1.0 g/hp-hr for NO_x and 2.0 g/hp-hr for CO on each of the four 684 hp Mesa GV22PU 4SRB natural gas-fired RICE equipped with NSCR/3-way catalyst (Proposed X002) to remain below the major source threshold under Title V. After installation of the five proposed RICE, the potential emissions of each individual hazardous air pollutant (HAP) would remain below 10 TPY, and the potential emissions of combined HAP would remain below 25 TPY. Based on location coordinates provided in the applications, this facility would be located within a one-mile radius of the 28-16-01 Gob Well, 28-10-2 Gob Well, and 28-04-04 Gob Well; therefore, the potential emissions of each facility would be aggregated together in accordance with the State's sensible grouping policy to determine Title V status. After aggregating the emissions, this facility would remain a synthetic minor source under Title V regulations.

PSD

The facility operations are not one of the 28 listed major source categories, and the facility is located in an attainment area for all criteria pollutants; therefore, the major source threshold of concern is 250 TPY for criteria pollutants. To remain below the major source threshold, Warrior Met Coal has proposed to install catalysts which would be necessary to meet the NSPS Subpart JJJJ limits on the generator RICE (Proposed SMOP No. X002). The Subpart JJJJ limits, 1.0 g/hp-hr for NO_x and 2.0 g/hp-hr for CO, would also serve as the anti-PSD synthetic minor limits to keep potential emissions below major source thresholds under PSD regulations. After the construction of the proposed RICE (Proposed Air Permit No. X001 and SMOP No. X002), the facility would be a synthetic minor source under PSD regulations. Based on location coordinates provided in the applications, this facility would be located within a one-mile radius of the 28-16-01 Gob Well, 28-

10-2 Gob Well, and 28-04-04 Gob Well; therefore, the potential emissions of each facility would be aggregated together in accordance with the State's sensible grouping policy to determine PSD status. After aggregating the emissions, this facility would remain a synthetic minor source under PSD regulations.

NESHAP/MACT

40 CFR Part 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (Subpart ZZZZ)

One 145 hp Caterpillar G3306 4-Stroke Rich-Burn Natural Gas-Fired Reciprocating Internal Combustion Engine Equipped with 3-Way Catalyst (Proposed Air Permit X001)

40 CFR Part 63 Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary RICE (Subpart ZZZZ) applies to existing RICE at area sources. This RICE equipped with a catalyst, was manufactured in 1999 and has been operated at other locations. Therefore, the existing RICE equipped with a catalyst would be considered an existing non-emergency 4SRB RICE less than 500 hp located at an area source.

Emission/Operation Limitations

There would be no emission limitations applicable to this RICE under Subpart ZZZZ.

In accordance with Table 2d to Subpart ZZZZ, Warrior Met Coal would be required to change the oil and filter every 1,440 hours of operation or annually, whichever comes first; inspect spark plugs every 1,440 hours of operation or annually, whichever comes first and replace as necessary; and inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.

Testing Requirements

There would be no emission testing requirements applicable to this RICE equipped with a catalyst under Subpart ZZZZ.

Continuous Compliance Monitoring

Warrior Met Coal would be required to operate and maintain the RICE equipped with a catalyst in a manner consistent with safety and good air pollution control practices for minimizing emissions, as required by Subpart ZZZZ.

Notifications

There would be no notification requirements applicable to this RICE equipped with a catalyst under Subpart ZZZZ.

Reports

There would be no reporting requirements applicable to this RICE equipped with a catalyst under Subpart ZZZZ.

Recordkeeping

The recordkeeping requirements are outlined in Table 6 to Subpart ZZZZ to show continuous compliance. Warrior Met Coal would be required to develop a maintenance plan and to keep records of the maintenance conducted on the stationary RICE equipped with a catalyst.

Four 684 hp Mesa GV22PU 4-Stroke Rich-Burn Natural Gas-Fired Reciprocating Internal Combustion Engines Equipped with NSCR/3-Way Catalyst (Proposed SMOP No. X002)

40 CFR Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (Subpart ZZZZ) applies to new and existing engines at area and major sources of HAP. The four proposed RICE would each be considered a new affected source because they would each be constructed¹ after June 12, 2006. According to 40 CFR §63.6590(c), any new stationary RICE located at an area source of HAP emissions must meet the requirements of the Subpart ZZZZ by meeting the requirements of 40 CFR Part 60, Subpart JJJJ, Standards of Performance for Stationary Spark Ignition Internal Combustion Engines (Subpart JJJJ). No further requirements would apply to the proposed emergency RICE under Subpart ZZZZ.

NSPS

40 CFR Part 60, Subpart JJJJ, Standards of Performance for Stationary Spark Ignition Internal Combustion Engines (SI ICE) (Subpart JJJJ) [Adopted by reference in ADEM Admin. Code r. 335-3-10-.02(88)]

One 145 hp Caterpillar G3306 4-Stroke Rich-Burn Natural Gas-Fired Reciprocating Internal Combustion Engine Equipped with 3-Way Catalyst (Proposed Air Permit No. X001)

40 CFR §60.4230(a)(4)(iii) states that SI ICE with a maximum engine power less than 500 hp are subject to this Subpart if construction commences after June 12, 2006, and the SI ICE are manufactured on or after July 1, 2008. Since the proposed SI ICE equipped with a catalyst was manufactured prior to 2008, it would not be subject to this Subpart.

Four 684 hp Mesa GV22PU 4-Stroke Rich-Burn Natural Gas-Fired Reciprocating Internal Combustion Engines Equipped with NSCR/3-Way Catalyst (Proposed SMOP No. X002)

40 CFR §60.4230(a)(5) states that stationary SI ICE are subject to this Subpart if construction commences after June 12, 2006. Since the four proposed SI ICE were each constructed after June 12, 2006, they would each be subject to this Subpart.

Emission Limitations

As specified in 40 CFR §60.4233(e) and Table 1 to Subpart JJJJ, each of the four proposed SI ICE would be subject to a NO_x emission standard of 1.0 g/hp-hr or 82 ppmvd at 15% O₂, a CO emission standard of 2.0 g/hp-hr or 270 ppmvd at 15% O₂, and a VOC emission standard of 0.7 g/hp-hr or

¹ According to the EPA and for the purpose of Subpart ZZZZ, construction means the on-site fabrication, erection, or installation of an affected source.

60 ppmvd at 15% O₂. According to 40 CFR §60.4234, Warrior Met Coal must operate and maintain the four proposed SI ICE in a manner that meets these emission standards over the entire life of each engine. The four proposed SI ICE would be EPA certified to meet the applicable emission standards of Subpart JJJJ. The catalyst would be necessary to meet the applicable emission limits under Subpart JJJJ.

Compliance Requirements

To demonstrate compliance with the applicable emission limitations, Warrior Met Coal purchased engines certified to the emission standards. 40 CFR §60.4243(b) requires Warrior Met Coal to maintain each certified engine according to the manufacturer's emission-related written instructions. Warrior Met Coal must keep records of conducted maintenance on each of the proposed engines to demonstrate compliance and must, to the extent practicable, maintain and operate each engine in a manner consistent with good air pollution control practices for minimizing emissions.

Testing Requirements

Each of the four proposed engines are certified. They would not have to undergo initial or subsequent compliance tests as long as Warrior Met Coal operates the engines according to the manufacturer's emission-related written instructions. However, if Warrior Met Coal does not operate and maintain each of the proposed engines according to the manufacturer's emission-related written instructions, the proposed engines would be considered non-certified engines and Warrior Met Coal would be required to demonstrate compliance by performing initial and subsequent performance tests.

Notification, Reports, and Records

40 CFR §60.4245(a) requires that owners and operators of stationary SI ICE must keep records of all notifications submitted and all documentation supporting any notification. Records of all maintenance conducted on the proposed engines must be maintained. All records required under this Subpart must be retained for at least five years from the date of generation of each record and be readily available for inspection upon request.

40 CFR Part 60, Subpart OOOO, Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution for which Construction, Modification or Reconstruction Commenced After August 23, 2011, and on or before September 18, 2015 (Subpart OOOO)

This facility would not be subject to this Subpart because the installation of the proposed compressor and five RICE would not occur after August 23, 2011, and on or before September 18, 2015, as specified in 40 CFR §60.5365.

40 CFR Part 60, Subpart OOOOa, Standards of Performance for Crude Oil and Natural Gas Facilities for Which Construction, Modification or Reconstruction Commenced After September 18, 2015 and On or Before December 6, 2022 (Subpart OOOOa)

The facility would not be subject to this Subpart because the installation of the proposed compressor and five RICE would not occur after September 18, 2015, and on or before December

6, 2022, as specified in 40 CFR §60.5365a.

40 CFR Part 60, Subpart OOOOb, Standards of Performance for Crude Oil and Natural Gas facilities for which Construction, Modification or Reconstruction Commenced After December 6, 2022 (Subpart OOOOb)

The compressor associated with the proposed RICE (Proposed Air Permit No. X001) would not meet the definition of a reciprocating compressor as listed in 40 CFR §60.5430b, because this unit would utilize a rotary screw package compressor and not a rod packing compressor.

40 CFR §60.5365b(a) states that each well affected facility, which is a single well that conducts a well completion operation is an affected source under this Subpart. 40 CFR §60.5370b states Warrior Met Coal must be in compliance with the standards of this Subpart upon startup of the proposed well and must, at all times, maintain and operate the affected facility in a manner consistent with good air pollution control practices for minimizing emissions.

Each affected well facility would be required to meet the VOC emissions reduction as specified in 40 CFR §60.5375b(a). However, in accordance with 40 CFR §60.5375b(a)(1)(iii)(A) since this well would not be hydraulically fracked, Warrior Met Coal would not be required to have a separator on-site. Warrior Met Coal would be required to maintain a log for each well completion operation on a daily basis for the duration of the well completion operation and must contain the records specified in 40 CFR §60.5420b(c)(1)(iii).

Initial compliance with the fugitive equipment components requirements are outlined in 40 CFR §60.5410b(k). In accordance with 40 CFR §60.5410b(k), Warrior Met Coal would be required to: (1) develop a fugitive emissions monitoring plan as required by 40 CFR §60.5397b(b), (c), and (d); (2) conduct an initial monitoring survey as required by 40 CFR §60.5397b(e) and (f)(4); (3) repair each identified source of fugitive emissions for each affected facility as required in 40 CFR §60.5397b(h); (4) comply with the initial annual reporting requirements as specified in 40 CFR §60.5420b(b)(1) and (9); and (5) maintain the records as specified in 40 CFR §60.5420b(c)(14);

Continuous compliance with the fugitive equipment components requirements are outlined in 40 CFR §60.5415b(l). In accordance with 40 CFR §60.5415b(l), Warrior Met Coal would be required to: (1) conduct periodic monitoring surveys as required by 40 CFR §60.5397b(e) and (g); (2) repair each identified source of fugitive emissions as required by 40 CFR §60.5397b(h); (3) submit annual reports for fugitive emissions as required in 40 CFR §60.5397b(h); and (4) maintain records as specified in 40 CFR §60.5420b(c)(14).

In accordance with 40 CFR §60.5420b(b), the initial annual report is due no later than 90 days after the end of the initial compliance period as determined by 40 CFR §60.5410b(k) (March 15, 2027). Subsequent annual reports are due no later than the same date each year as the initial annual report. Warrior Met Coal must submit annual reports in accordance with the procedures specified in 40 CFR §60.5420b(b)(1) and (9) (March 15th of each year). In accordance with 40 CFR §60.5420b(b), Warrior Met Coal may submit one report for multiple affected facilities provided the report contains all the information required as specified in 40 CFR §60.5420b(b)(1) through (14).

Monitoring Requirements

To monitor requirements with the fugitive emissions component requirements under Subpart OOOOb, Warrior Met Coal must develop a fugitive emissions monitoring plan as required by 40 CFR §60.5397b(b), (c), and (d), monitor fugitive emissions components as required by 40 CFR §60.5397b(e), conduct an initial monitoring survey as required by 40 CFR §60.5397b(f)(3), must conduct periodic monitoring surveys as required by 40 CFR §60.5397b(g), maintain records as specified by 40 CFR §60.5420b(c)(14), repair each identified source of fugitive emissions for each affected facility as required by 40 CFR §60.5397b(h).

Each of the four proposed 684 hp Mesa GV22PU 4SRB natural gas-fired RICE equipped with NSCR/3-way catalyst (Proposed X002) are certified. Therefore, under Subpart JJJJ, they would not have to undergo initial or subsequent compliance tests as long as Warrior Met Coal operates the engines according to the manufacturer's emission-related written instructions. However, to ensure compliance with the synthetic minor limits for Proposed SMOP No. X002, Warrior Met Coal would be required to conduct a compliance test every 60 months, starting 60 months after the initial operation of these units.

Air Quality Impact

This facility is located in Tuscaloosa County, an attainment area for all criteria pollutants. It is located greater than 100 km from the Sipsey Wilderness Area, the nearest Class I Area. The proposed equipment would not be expected to have a significant impact on this area.

Public Participation

This facility would be considered a Greenfield site. In accordance with ADEM Admin. Code r. 335-3-14-.01, the Air Division will initiate a 15-day public comment period in order to solicit public input regarding the Department's preliminary determination to issue Warrior Met Coal Air Permit No. X001 for the 145 hp Caterpillar G3306 4SRB natural gas-fired RICE equipped with 3-way catalyst and SMOP No. X002 for the four 684 hp Mesa RICE equipped with NSCR/3-way catalyst.

A Greenfield site inspection was conducted on June 25, 2026. The proposed facility would not be located within close proximity to any residence. In addition, based on the nature of the proposed facility operations, there would be no adverse impacts expected from the proposed facility's emissions.

In accordance with ADEM Admin. Code r. 335-3-15-.05, the Air Division will initiate a 15-day public comment period, to run concurrently with the aforementioned 15-day greenfield public comment period, to solicit public input regarding the Department's preliminary determination to issue Warrior Met Coal Synthetic Minor Operating Permit No. X002 for the four 684 hp Mesa RICE equipped with NSCR/3-way catalyst.

Recommendations

Upon receipt of the payment of fees and the resolution of any comments received during the 15-day public comment period, I recommend the following permits be issued to Warrior Met Coal:

Air Permit No. X001 – One 145 hp Caterpillar RICE Equipped with 3-way Catalyst

SMOP No. X002 – Four 684 hp Mesa RICE equipped with NSCR/3-way catalyst.



Brandon Cranford
Chemical Branch
Air Division

June 26, 2026

Date

413-0130 125 06-26-2026 ENGA BRC AP X001

413-0130 125 06-26-2026 SMOPEA BRC SMOP X002

**APPENDIX A
WARRIOR MET COAL GAS, LLC
WELL 28-15-01
FACILITY NO. 413-0130
CALCULATIONS**

POTENTIAL EMISSIONS

Proposed X001 - 145-hp Caterpillar G3306 4-Stroke Rich-Burn Natural Gas-Fired Reciprocating Internal Combustion Engine Equipped with 3-Way Catalyst

Uncontrolled Emissions

NO_x (based on manufacturer's data)

$$\frac{3.96 \text{ lb}}{\text{hr}} \times \frac{8760 \text{ hr}}{\text{yr}} \times \frac{T}{2000 \text{ lb}} = 17.34 \text{ TPY}$$

CO (based on manufacturer's data)

$$\frac{3.96 \text{ lb}}{\text{hr}} \times \frac{8760 \text{ hr}}{\text{yr}} \times \frac{T}{2000 \text{ lb}} = 17.34 \text{ TPY}$$

VOC (based on manufacturer's data)

$$\frac{0.07 \text{ lb}}{\text{hr}} \times \frac{8760 \text{ hr}}{\text{yr}} \times \frac{T}{2000 \text{ lb}} = 0.31 \text{ TPY}$$

PM₁₀/PM_{2.5} (based on AP-42 emission factors Section 3.2 Table 3.2-3)

$$\frac{0.0095 \text{ lb}}{\text{MMBtu}} \times \frac{0.3689 \text{ MMBtu}}{\text{hr}} \times \frac{8760 \text{ hr}}{\text{yr}} \times \frac{T}{2000 \text{ lb}} = 0.02 \text{ TPY}$$

PM_{con} (based on AP-42 emission factors Section 3.2, Table 3.2-3)

$$\frac{0.00991 \text{ lb}}{\text{MMBtu}} \times \frac{0.3689 \text{ MMBtu}}{\text{hr}} \times \frac{8760 \text{ hr}}{\text{yr}} \times \frac{T}{2000 \text{ lb}} = 0.02 \text{ TPY}$$

SO₂ (based on AP-42 emission factors Section 3.2, Table 3.2-3)

$$\frac{0.000588 \text{ lb}}{\text{MMBtu}} \times \frac{0.3689 \text{ MMBtu}}{\text{hr}} \times \frac{8760 \text{ hr}}{\text{yr}} \times \frac{T}{2000 \text{ lb}} = 0.001 \text{ TPY}$$

Formaldehyde (based on AP-42 emission factors Section 3.2, Table 3.2-3)

$$\frac{0.0205 \text{ lb}}{\text{MMBtu}} \times \frac{0.3689 \text{ MMBtu}}{\text{hr}} \times \frac{8760 \text{ hr}}{\text{yr}} \times \frac{T}{2000 \text{ lb}} = 0.03 \text{ TPY}$$

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Proposed X001 - 145 hp Caterpillar G3306 4-Stroke Rich-Burn Natural Gas-Fired Reciprocating Internal Combustion Engine Equipped with Catalyst

Controlled Emissions

Control Efficiency: NO_x – 95.85%

NO_x (based on manufacturer's data)

$$\frac{0.16 \text{ lb}}{\text{hr}} \times \frac{8760 \text{ hr}}{\text{yr}} \times \frac{T}{2000 \text{ lb}} = 0.70 \text{ TPY}$$

CO (based on manufacturer's data)

$$\frac{3.96 \text{ lb}}{\text{hr}} \times \frac{8760 \text{ hr}}{\text{yr}} \times \frac{T}{2000 \text{ lb}} = 17.34 \text{ TPY}$$

VOC (based on manufacturer's data)

$$\frac{0.07 \text{ lb}}{\text{hr}} \times \frac{8760 \text{ hr}}{\text{yr}} \times \frac{T}{2000 \text{ lb}} = 0.31 \text{ TPY}$$

PM₁₀/PM_{2.5} (based on AP-42 emission factors Section 3.2 Table 3.2-3)

$$\frac{0.0095 \text{ lb}}{\text{MMBtu}} \times \frac{0.3689 \text{ MMBtu}}{\text{hr}} \times \frac{8760 \text{ hr}}{\text{yr}} \times \frac{T}{2000 \text{ lb}} = 0.02 \text{ TPY}$$

PM_{con} (based on AP-42 emission factors Section 3.2, Table 3.2-3)

$$\frac{0.00991 \text{ lb}}{\text{MMBtu}} \times \frac{0.3689 \text{ MMBtu}}{\text{hr}} \times \frac{8760 \text{ hr}}{\text{yr}} \times \frac{T}{2000 \text{ lb}} = 0.02 \text{ TPY}$$

SO₂ (based on AP-42 emission factors Section 3.2, Table 3.2-3)

$$\frac{0.000588 \text{ lb}}{\text{MMBtu}} \times \frac{0.3689 \text{ MMBtu}}{\text{hr}} \times \frac{8760 \text{ hr}}{\text{yr}} \times \frac{T}{2000 \text{ lb}} = 0.001 \text{ TPY}$$

Formaldehyde (based on AP-42 emission factors Section 3.2, Table 3.2-3)

$$\frac{0.0205 \text{ lb}}{\text{MMBtu}} \times \frac{0.3689 \text{ MMBtu}}{\text{hr}} \times \frac{8760 \text{ hr}}{\text{yr}} \times \frac{T}{2000 \text{ lb}} = 0.03 \text{ TPY}$$

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Proposed X002 – Four 684 hp Mesa GV22PU 4-Stroke Rich-Burn Natural Gas-Fired Reciprocating Internal Combustion Engines Equipped with NSCR/3-Way Catalyst

NSPS, Subpart JJJJ, Emission Limitations:

NO_x: 1.0 g/Hp-hr (1.51 lb/hr)

CO: 2.0 g/Hp-hr (3.02 lb/hr)

VOC: 0.7 g/Hp-hr (1.06 lb/hr)

Uncontrolled Emissions

NO_x (based on manufacturer's data)

22.41 lb	8760 hr	T	= 98.16 TPY
hr	yr	2000 lb	x 4 = 392.64 TPY

CO (based on manufacturer's data)

19.45 lb	8760 hr	T	= 85.19 TPY
hr	yr	2000 lb	x 4 = 340.76 TPY

VOC (based on manufacturer's data)

0.41 lb	8760 hr	T	= 1.80 TPY
hr	yr	2000 lb	x 4 = 7.20 TPY

PM₁₀/PM_{2.5} (based on AP-42 emission factors Section 3.2 Table 3.2-3)

0.0095 lb	5.48 MMBtu	8760 hr	T	= 0.23 TPY
MMBtu	hr	yr	2000 lb	x 4 = 0.92 TPY

PM_{con} (based on AP-42 emission factors Section 3.2, Table 3.2-3)

0.00991 lb	5.48 MMBtu	8760 hr	T	= 0.24 TPY
MMBtu	hr	yr	2000 lb	x 4 = 0.96 TPY

SO₂ (based on AP-42 emission factors Section 3.2, Table 3.2-3)

0.000588 lb	5.48 MMBtu	8760 hr	T	= 0.01 TPY
MMBtu	hr	yr	2000 lb	x 4 = 0.04 TPY

Formaldehyde (based on AP-42 emission factors Section 3.2, Table 3.2-3)

0.0205 lb	5.48 MMBtu	8760 hr	T	= 0.49 TPY
MMBtu	hr	yr	2000 lb	x 4 = 1.96 TPY

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Proposed X002 - 684 hp Mesa GV22PU 4-Stroke Rich-Burn Natural Gas-Fired Reciprocating Internal Combustion Engine Equipped with NSCR/3-Way Catalyst

NSPS, Subpart JJJJ, Emission Limitations:

NO_x: 1.0 g/Hp-hr (1.51 lb/hr)

CO: 2.0 g/Hp-hr (3.02 lb/hr)

VOC: 0.7 g/Hp-hr (1.06 lb/hr)

Controlled Emissions

Control Efficiency: NO_x – 99.9%

CO – 99.9%

VOC – 99.9%

NO_x (based on EPA Certificate of Conformity)

1.51 lb	8760 hr	T	= 6.61 TPY
hr	yr	2000 lb	x 4 = 26.44

NO_x (based on control device manufacturer's data)

0.02 lb	8760 hr	T	= 0.09 TPY
hr	yr	2000 lb	x 4 = 0.36 TPY

CO (based on EPA Certificate of Conformity)

3.02 lb	8760 hr	T	= 13.23 TPY
hr	yr	2000 lb	x 4 = 52.92 TPY

CO (based on control device manufacturer's data)

0.02 lb	8760 hr	T	= 0.09 TPY
hr	yr	2000 lb	x 4 = 0.36 TPY

VOC (based on EPA Certificate of Conformity)

1.06 lb	8760 hr	T	= 4.64 TPY
hr	yr	2000 lb	x 4 = 18.56 TPY

VOC (based on control device manufacturer's data)

0.0004 lb	8760 hr	T	= 0.002 TPY
hr	yr	2000 lb	X 4 = 0.008 TPY

PM₁₀/PM_{2.5} (based on AP-42 emission factors Section 3.2 Table 3.2-3)

0.0095 lb	5.48 MMBtu	8760 hr	T	= 0.23 TPY
MMBtu	hr	yr	2000 lb	x 4 = 0.92 TPY

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PMcon (based on AP-42 emission factors Section 3.2, Table 3.2-3)

0.00991 lb	5.48 MMBtu	8760 hr	T	= 0.24 TPY
MMBtu	hr	yr	2000 lb	x 4 = 0.96 TPY

SO₂ (based on AP-42 emission factors Section 3.2, Table 3.2-3)

0.000588 lb	5.48 MMBtu	8760 hr	T	= 0.01 TPY
MMBtu	hr	yr	2000 lb	x 4 = 0.04

Formaldehyde (based on AP-42 emission factors Section 3.2, Table 3.2-3)

0.0205 lb	5.48 MMBtu	8760 hr	T	= 0.49 TPY
MMBtu	hr	yr	2000 lb	x 4 = 1.96 TPY

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Facility-Wide Potential Uncontrolled Emissions (TPY)

Unit No.	Unit Description	Potential Emissions						
		NO _x	CO	VOC	PM	PM ₁₀	SO ₂	CH ₂ O
Proposed *X001	145 hp Caterpillar w/CC	17.34	17.34	0.31	0.02	0.02	0.001	0.03
Proposed X002	(4) 684 hp Mesa w/CC	392.64	340.76	7.20	0.92	0.92	0.04	1.96
Proposed Total		409.98	358.10	7.51	0.94	0.94	0.04	1.99

*NESHAP ZZZZ Engine

Facility-Wide Potential Controlled Emissions (TPY)

Unit No.	Unit Description	Potential Emissions						
		NO _x	CO	VOC	PM	PM ₁₀	SO ₂	CH ₂ O
Proposed *X001	145 hp Caterpillar w/CC	0.70	17.34	0.31	0.02	0.02	0.001	0.03
**Proposed X002	(4) 684 hp Mesa w/CC	26.44	52.92	18.56	0.94	0.92	0.04	1.96
Proposed Total		27.14	70.26	18.87	0.94	0.94	0.04	1.99

*NESHAP ZZZZ Engine

**NSPS Allowable (TPY)

APPENDIX A
WARRIOR MET COAL GAS, LLC
WELL 28-15-01
FACILITY NO. 413-0130
CALCULATIONS

Facility-Wide Uncontrolled Potential Emissions (TPY) (1-Mile Radius)

Facility No.	Facility Name	Potential Emissions						
		NO _x	CO	VOC	PM	PM ₁₀	SO ₂	CH ₂ O
413-0130	28-15-01	409.98	358.10	7.51	0.02	0.02	0.001	0.03
413-GW08	28-16-01 (well head only)	---	---	---	---	---	---	---
413-GW09	28-10-02	46.87	28.25	0.22	0.015	0.015	0.001	0.03
413-GW12	28-04-04 (well head only)	---	---	---	---	---	---	---
Proposed Total		456.85	386.35	7.73	0.04	0.04	0.002	0.06

Facility-Wide Controlled Potential Emissions (TPY) (1-Mile Radius)

Facility No.	Facility Name	Potential Emissions						
		NO _x	CO	VOC	PM	PM ₁₀	SO ₂	CH ₂ O
413-0130	28-15-01	27.14	70.26	18.87	0.02	0.02	0.001	0.03
413-GW08	28-16-01 (well head only)	---	---	---	---	---	---	---
413-GW09	28-10-02	14.54	28.25	0.22	0.015	0.015	0.001	0.03
413-GW12	28-04-04 (well head only)	---	---	---	---	---	---	---
Proposed Total		41.68	98.51	19.08	0.04	0.04	0.002	0.06